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Attorney Fees in Repeated Relationships

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Abstract: *We consider the optimal contract between a law firm and a corporate client involved in a repeated relationship. In contrast to the previous literature pertaining to one time interactions between clients and attorneys, we find that the contingent fee is not the best arrangement. Rather, we find the optimal contract to include an hourly fee equal to the law firm's opportunity cost, a lump sum, and a termination function. The lump sum payment is independent of the number of hours worked by the law firm and the outcome of the case. The repeated nature of the relationship along with the client's ability to replace the law firm at zero cost, allows the client to create a termination function that gives the law firm the probability that the client will terminate the relationship after the current case. The combination of all three of these contractual elements induce the law firm to exert the optimal level of effort in the current case in order to continue the relationship and obtain the lump sum payment in future cases.*

JEL Classification Number: K0, L14

1. Introduction

When hiring an attorney, a client has many possible employment contracts from which to choose. The client may choose to pay a fixed fee or an hourly fee for the attorney's services. Alternatively, the client may prefer, or the attorney may require, a contingent fee that compensates the attorney by paying him a fixed percentage of the client's trial or settlement award. The merits of contingent fee compensation, as compared to an hourly or fixed fee, have been considered both by lawmakers and economists. While lawmakers tend to be somewhat skeptical of contingent fees, economists have largely supported their use.¹

The typical reasoning in favor of the contingent fee stems from the familiar moral hazard problem. That is, if attorney effort is not observable, then an hourly or fixed fee arrangement will not induce the attorney to exert the effort necessary to maximize the client's expected award. The contingent fee, by giving the attorney a stake in the final award, will induce the attorney to put forth a more efficient level of effort (Danzon (1983)).² Contingent fees have been found to be more efficient than hourly or fixed fees in a number of other settings as well.³

¹ However, Schwartz & Mitchell (1970) find the hourly fee to be more desirable than the contingent fee.

² Halpern and Turnbull (1983) and Santore and Viard (2001) argue that a 100% contingent fee is optimal.

³ Contingent fees have been deemed desirable when clients are risk averse (Danzon (1983)), the attorney has better information regarding the merits of the case than the client (Dana and Spier (1993)), risk sharing is appropriate (Posner (1986)), information is asymmetric (Rubinfeld and Scotchmer (1993)), and clients cannot afford hourly or fixed fees (Rhein (1982)).

In practice, however, we observe that contingent fees are not always used to compensate attorneys. For example, corporate clients with outside counsel tend to enter into fewer contingent fee contracts than the typical plaintiff.⁴ One reason for this might be that corporate clients are more informed about the merits of their cases than the average plaintiff.⁵ Another possible explanation may be that corporate plaintiffs are involved in more litigation than the average plaintiff and frequently use the same law firms for multiple cases. A law firm, therefore, must consider the impact of its effort on any single case on the continuing relationship with the corporate client. We argue that the best method for assuring that the firm makes an optimal effort is through the firm's desire to maintain the relationship.

We show that in repeated relationships between law firms and corporate clients the contingent fee is no longer the optimal compensation arrangement. Rather, a fee that combines an hourly fee, a lump sum, and a "termination function" is the optimal mechanism. The termination function gives the probability that the client will choose to discontinue its relationship with the law firm based on the law firm's performance in previous cases. It is assumed that the termination function is an explicit element of the contract between the client and law firm. We discuss the realism of this assumption below. Further, we find that the termination function can take a very simple and intuitive form. In particular, it follows directly from realized payoffs and client risk preferences.

⁴ Kritzer, et al. (1985).

⁵ See Dana and Spier (1993).

The combination of all three contractual elements create the optimal incentives for the law firm to provide the efficient level of effort. The hourly fee is set at exactly the opportunity cost of the law firm's time.⁶ The lump sum payment is independent of the outcome of the case and the law firm's performance.⁷ Thus, the incentive for the law firm to exert optimal effort is not based on the current case but solely on future cases. Given these three contractual elements, the incentive for the law firm to make the efficient level of effort is based on the likelihood of receiving future cases and the lump sum payment associated with those cases. Since the likelihood of receiving future cases is determined by the realized payoff in the current case, the firm acts to satisfy the client in the current case. The repeated nature of the relationship allows the client to set a contract such that the law firm cares about the full realized payoff in the current case rather than the fraction of the payoff it will receive, as is the case with contingent contracts.

As noted above, the previous literature regarding attorney fees has largely found that contingent fee arrangements provide better incentives than hourly fee agreements. However, neither type of fee arrangement provides perfect incentives for the attorney.⁸ The contract we propose, however, creates perfect incentives for the law firm. In our setting, use of a contingent fee or an hourly fee not equal to the law firm's opportunity costs can only distort choices away from efficiency. Thus, in the optimal contract the

⁶ The law firm's opportunity cost is assumed to be the wage it can receive elsewhere.

⁷ We examine possible sources of the lump sum in the discussion below.

⁸ Only a 100% contingent fee would completely solve the moral hazard problem but this arrangement is not legally permissible. See Danzon (1983), Halpern and Turnbull (1983) and Santore and Viard (2001).

contingent fee is set to zero and the hourly fee must be exactly equal to the law firm's opportunity costs.

We presume that the client may terminate his relationship with the attorney at any time.

However, this assumption is more restrictive than necessary. As long as the client can reduce the intensity of the relationship at low cost, then our results remain intact.

Evidence suggests that corporate clients are able to reduce the intensity of a relationship with one law firm at nearly zero cost from the common use of "preferred counsel" lists that are maintained by many Fortune 500 companies.⁹

Preferred counsel lists are created by corporations to inform managers which law firms have been approved for use in a particular type of case without the need for additional approval. Many companies list multiple law firms under each case type. The law firms are informed of their placement on the list and of removal from the list. Thus, if a corporate client wished to punish a law firm for providing insufficient effort it could simply give a larger share of the cases to one of the other approved firms.¹⁰ Additionally, the corporation could remove the law firm from the preferred counsel list altogether. In a recent survey of the Fortune 250 corporations¹¹, general counsels indicated a willingness to remove law firms from their preferred counsel lists if those firms showed complacency, neglect or charged excessive fees. Companies also state that they reduce

⁹ We discuss this evidence in more detail in the results section.

¹⁰ See Jones (2003).

¹¹ See Jones (2003).

the volume of cases they give to a particular law firm if they are unhappy with its performance.

We are not the first authors to suggest that a mixed fee arrangement may be optimal. For example Clermont and Currivan (1978) propose a mixture of hourly and contingent fees to solve the moral hazard problem. Likewise, Rubinfeld and Scotchmer (1993) find that a combination of fixed and contingent fees is optimal when information is asymmetric. Of course, these authors focus on one time interactions where as we consider repeated interactions between the attorney and client.

2. Model

Consider the interactions between a corporate customer and a law firm. We assume that the corporate customer is the plaintiff, P , so that contingent fees can be contracted upon realized outcomes.¹² The law firm is represented as F . Let $i = [i_1, i_2]$ denote a vector of variables that characterizes a particular legal case. We presume that part of this vector, i_1 , is observable by both plaintiff and law firm, but the remainder, i_2 , is observable only by the law firm. Further, we presume that i_2 is not reportable or verifiable.¹³ The time spent on the case by the law firm is h .¹⁴ The reward for the case is the random

¹² See *supra*.

¹³ i_2 may represent private knowledge of the attorney's ability as in Rubinfeld and Scotchmer (1993), private knowledge of the merits of the case as in Dana and Spier (1993), or some other private information.

¹⁴ We assume that the number of hours spent on the case by the law firm is observable.

variable $A(i, h)$.¹⁵ Of course, if the plaintiff loses his case, then $A(i, h) = 0$. The cost of time is c for the law firm. Let $B(i, h) = U(\mu + A(i, h) - ch) - U(\mu)$, where $U(\cdot)$ is the client's von Neumann-Morgenstern (v.N-M) utility function and μ is the client's initial wealth. We presume that there is a maximum number of hours for the law firm to spend on a case and that there is an upper bound to the possible payoffs from the case. Then, given the plaintiff's knowledge of i_1 , the plaintiff knows that $B \in [\underline{b}, \bar{b}]$. Throughout, a hatted variable denotes the expected value of that variable, prior to the case. This expectation is taken with, the law firm's, full knowledge of i . For example, $\hat{A}(i, h) = E[A(i, h)]$ and $\hat{B}(i, h)$ is the increase in expected utility from the case. We define h^* as the solution to

$$\max_h U(\mu + A(i, h) - ch) - U(\mu) \quad (1)$$

Let $A^*(i) = \hat{A}(i, h^*)$ and $B^*(i) = \hat{B}(i, h^*)$.

3. One Shot Contracts

3.1 The One Shot Wage Contract

Let us first consider an hourly fee in a one shot contract. We follow the approach set forth in Danzon (1983). We presume that when the law firm bills for time within a one shot relationship it charges $w = c$. A subscript w denotes that we are considering a one

¹⁵ The reward includes the possibility of settlement.

shot wage contract. Let $p(i, h_w)$ be the probability of positive recovery by the plaintiff.

We now assume that the law firm's effort can be specialized to add value to p or A separately. Then $\hat{A}(i, h_w) = p(i, h_w^1)A(i, h_w^2)$, where h_w^1 represents the law firm's hours that increase the value of p and h_w^2 represents the law firm's hours that increase the value of A . Let subscripts 1 and 0 on the utility function represent states where the plaintiff receives a positive award and a non-positive award respectively. Throughout we assume that the law firm is risk neutral.

The plaintiff selects h_w^1 and h_w^2 to maximize his expected utility:

$$\max_{h_w^1, h_w^2} pU[\mu + A - w(h_w^1 + h_w^2)] + (1 - p)U[\mu - w(h_w^1 + h_w^2)]. \quad (2)$$

The first order conditions for the plaintiff are:

$$p \frac{\partial A}{\partial h_w^1} \frac{U'_1}{\hat{B}} = w \quad (3)$$

$$\frac{\partial p}{\partial h_w^2} \frac{(U_1 - U_0)}{\hat{B}} = w, \quad (4)$$

where $\hat{B} = pU'_1 + (1 - p)U'_0$ is the expected marginal utility. We will compare these results to our analysis on the one shot contingent fee contract.

3.2 The One Shot Contingent Contract

In the context of the one shot contingent contract, we assume that law firms competitively bid for the plaintiff's case. This implies that the plaintiff's expected utility

will be maximized subject to the constraint that the law firm will be able to cover the opportunity cost of its time. A subscript α denotes that we are considering a contingent contract. The law firm selects h_α^1 , h_α^2 and α to:

$$\max_{h_\alpha^1, h_\alpha^2, \alpha, \lambda} pU[\mu + A(1 - \alpha)] + (1 - p)U[\mu] + \lambda[\alpha pA - w(h_\alpha^1 + h_\alpha^2)]. \quad (5)$$

Maximizing with respect to α implies $\lambda = U'_1$. Using this, the first order conditions are:

$$p \frac{\partial A}{\partial h_\alpha^1} = w \quad (6)$$

$$\frac{\partial p}{\partial h_\alpha^2} \left[\frac{U_1 - U_0}{\hat{B}} + \alpha A \right] = w. \quad (7)$$

Comparing equations (3) and (6) we can see that for a given p , the recovery is maximized under a contingent fee arrangement but not with the hourly wage contract. However, the sign on p is ambiguous since we are unsure how plaintiff risk aversion affects h_w^2 and h_α^2 . Thus, we cannot be sure that the contingent contract will induce optimal effort on the part of the law firm. Further, Danzon shows that if the value of α is constrained below one, then the contingent contract will not lead to an efficient outcome. In a slightly different model, Danzon also argues that $\hat{B}(i, h_w) < \hat{B}(i, h_\alpha) < B^*(i)$. We are not concerned with the relative merits of one shot contracts. Rather, we set

$\bar{B} = \max\{\hat{B}(i, h_w), \hat{B}(i, h_\alpha)\}$, and work with the fact that $\bar{B}(i) < B^*(i)$.

4. Repeated Interactions

In a repeated relationship, the plaintiff might want to set either the contingent payment or the wage rate differently. We give the power to terminate the relationship to the plaintiff.¹⁶ We make the presumption that if the relationship is terminated, then the plaintiff will meet with another law firm and arrive at an identical contract. We further presume that there is no transaction cost associated with finding the new firm.¹⁷ These two presumptions lead us to the following: within equilibrium, the plaintiff is always indifferent between terminating the contract and continuing the contract. Consequently, the plaintiff makes his decisions as if he were looking at a one shot contract. In addition, the plaintiff will not hesitate to terminate the relationship if that is the outcome of his decision rule. Therefore, we do not need to make any presumption about his commitment to terminate the relationship.

4.1 A Simple Model

The parties enter into a repeated contract $(L, w, \alpha, T(\cdot))$. Here L denotes a lump sum that the law firm receives independent of hours worked, or money awarded. For simplicity, we assume that L is independent of i . L is a portion of the expected surplus from the case. The expected surplus must be positive for the law firm to receive any lump sum

¹⁶ We could also give the firm the ability to terminate the relationship but if the firm can terminate the relationship it doesn't affect the client as long as it is costless for the client to create a contract with another firm.

¹⁷ If we assume that the plaintiff has more than one firm on its preferred counsel list then we can imagine the plaintiff reducing the number of cases given to this firm and increasing the caseload for the other firms on the list.

payment. Also, L must be small enough that the plaintiff prefers this contract to other types of contracts and not filing the case at all. However, we know that other types of contracts are less efficient and, therefore, there must always exist an L that is mutually beneficial in our contract as long as the case is worth filing.

The termination function, $T(\cdot)$, depends on the characteristics, i , and outcome, A , of the current case. This function allows the plaintiff and law firm to calculate the probability that the plaintiff will terminate its relationship with the law firm after the current case.

According to the industry survey referred to above, corporate general counsels routinely add and remove law firms from their preferred counsel lists. The law firms are notified when they are removed from the list and at least one general counsel notifies the public of a change through a press release. Thus, law firms can infer the likelihood of their removal from the list from the actions of the plaintiff over time. We include this likelihood as an explicit contractual element.

We found above that the wage contract alone cannot create the proper incentives. Now consider the incentives of the law firm. Let \hat{V}_t denote the value function for the firm. \hat{V}_t is the expected value of future streams of income from the relationship with the plaintiff. Let δ denote the discount rate, and $T(A, h)$ denote the probability that the plaintiff continues the relationship. Notice that the function $T(A, h)$ depends only upon the current period. Of course $\hat{T}(A, h)$ denotes the expectation of $T(A, h)$. Belman's equation yields:

$$V_t = L_r + \alpha \hat{A} + (w_r - c) * h + \delta \hat{T}(A, h) V_{t+1} \quad (2)$$

Because none of the variables depend upon the past, the equation simplifies to

$$\hat{V}_t = \frac{L_r + \alpha \hat{A} + (w_r - c) * h}{1 - \delta \hat{T}(A, h)} \quad (3)$$

The first order condition for the law firm is

$$\frac{dV}{dh} = \frac{(\alpha \frac{d\hat{A}}{dh} + w_r - c)(1 - \delta \hat{T}) + \delta [L_r + \alpha \hat{A} + (w_r - c)h] \frac{d\hat{T}}{dh}}{(1 - \delta \hat{T})^2} = 0 \quad (4)$$

We know that $\delta \hat{T}(A, C) < 1$. If the expected profit for the firm is zero, then the plaintiff and law firm have entered into a contract that is little different from a one shot deal. In particular, the law firm has no reason to care about the termination of the contract. This would leave the client with a contract with the shortcomings discussed in the previous section. Therefore, we need $L + \alpha \hat{A} + (w_r - c)h > 0$ so that the termination probability will matter to the law firm. With this presumption, the first order condition may be transformed to

$$\frac{d\hat{T}}{dh} = \frac{(\alpha \frac{d\hat{A}}{dh} + w_r - c)(1 - \delta \hat{T})}{\delta [L_r + \alpha \hat{A} + (w_r - c)h]} \quad (5)$$

Notice that we can set this to $\frac{d\hat{T}}{dh} = 0$ if $w_r = c$ and $\alpha = 0$. The plaintiff can use equation (5) to design a $T(A, h)$ yielding an optimal contract given any value of w_r and α_r . If $w_r - c = 0 = \alpha_r$, then $T(A, h)$ may be designed without the knowledge of either h or δ . Further, we shall see below that in this case $T(A, h)$ takes on a form which would be rather transparent to the firm. On the other hand, if $w_r \neq c$ or $\alpha \neq 0$, then the plaintiff must know at least h^* to design $T(A, h)$. If $\alpha_r A^* + (w_r - c)h^* \neq 0$, then the client must also know δ . We see that the law firm's incentives are determined entirely by the termination function. In the end, it is the lump sum payment *on future cases* that motivates the law firm to choose the optimal effort on the current case.

We now consider the case in which $w_r = c$, $\alpha_r = 0$ and $L_r > 0$, and ask: can we arrive at a function T which yields the proper incentives for the law firm? The answer to this question is yes. Recall that $B = U(\mu + A - ch) - U(\mu)$ is the v.N-M utility gain from the law firm's effort, and the client would like the law firm to maximize \hat{B} . We wish to use B to construct T , which is a probability. With this in mind, recall that given i_1 , the plaintiff knows that $B \in [\underline{b}, \bar{b}]$. We set $X = (B - \underline{b}) / (\bar{b} - \underline{b})$.

We begin with the simple case where $T = X$. Notice that

$$\frac{d\hat{T}}{dh} = \frac{1}{(\bar{b} - \underline{b})} \frac{d\hat{B}}{dh} = 0 \quad (6)$$

is the first order condition from above. By the definition of h^* , \hat{B} is increasing for $h < h^*$ and decreasing for $h > h^*$. Hence, the first order condition requires that $h = h^*$.

4.2 Additional Signals

The mechanism found above is set in its simplest form to make its nature clear. In this section, we consider a pair of modifications to the mechanism that maintain its main implications while adding flexibility. In particular, we want to show that the client may consider other sources of information relevant to its relationship with the law firm. We would also like the client to have the ability to be a bit more pragmatic regarding the probability of ending a relationship.

We first consider the integration of other information into the client's termination decision. Let the plaintiff receive some other signal $Y \in [0,1]$ concerning the performance of the law firm. Y is a random variable, the distribution of which is a function of h . In particular, if $|h^1 - h^*| < |h^2 - h^*|$, then $Y(h^1)$ First Order Stochastically dominates $Y(h^2)$. That is, the signal Y is informative and unbiased.

Further, \hat{Y} is a quasiconcave function and is maximized at $h = h^*$. Let

$Z = \beta Y + (1 - \beta)B$, where β represents the weight that the plaintiff puts on his two available signals.

Now let $a \in [0,1]$ be some base probability of not terminating the relationship. The higher is a , the lower the chance that the plaintiff will change the relationship with this law firm. We set $T = a + (1 - a)Z$. We notice that

$$\frac{d\hat{T}}{dh} = (1 - a) \frac{d\hat{Z}}{dh} = 0 \quad (7)$$

is the first order condition from above and

$$\frac{d\hat{Z}}{dh} = \beta \frac{d\hat{Y}}{dh} + \frac{(1 - \beta)}{(\bar{b} - \underline{b})} \frac{d\hat{B}}{dh} \quad (8)$$

By presumption both \hat{Y} and \hat{B} are increasing for $h < h^*$ and decreasing for $h > h^*$.

Hence, the first order condition requires again that $h = h^*$. If we set $a = 0$, and $\beta = 0$,

we arrive at $\hat{T} = \hat{X}$ which is the simple contract we examined above.

5. Discussion

We have shown that the contingent fee is not the optimal contract between a corporate plaintiff and a law firm. This result is contrary to the previous literature involving the optimal contract between an individual client and an attorney. In the literature it was found that the contingent fee contract corrected many of distortions created through the information asymmetry between the client and the attorney by giving the attorney a stake in the final outcome of the case. We have shown that in repeated interactions between corporate plaintiffs and law firms, two factors lead to a correction of the distortions without the need of contingent contracts.

The first is the ability of the plaintiff to change law firms at no cost. In creating preferred counsel lists, corporations establish contracts with potentially many law firms for a wide variety of legal cases. Thus, if the corporation wishes to end its relationship with one law firm it is able to redistribute the caseload to the other firms on the list without the need for extensive negotiations (they could simply modify the contracts in place) or an expensive search for a new law firm. By maintaining a substantial number of firms on the preferred counsel list, the client is in a way treating the cost of terminating a relationship as sunk. That is, the cost of the current termination is zero, because there are other firms on the list. However, in order to prepare to terminate a future firm, the client must find a new firm to add to the list first. Since this search takes place over time its cost may be somewhat mitigated. As long as the corporate client can switch firms at no cost, it can treat each legal case as a one-time contract and be indifferent between ending and extending the relationship with the law firm to additional cases.

Second, the law firm wishes to represent the client in future cases. The contract we propose consists of an hourly wage, a lump sum payment and a termination function. The hourly wage is set to exactly cover the law firm's opportunity costs. The lump sum payment is independent of the outcome of the current case and the law firm's performance. Finally, the termination function allows the plaintiff and attorney to calculate the probability that the client will terminate its relationship with law firm after the current case. This function is dependent on the outcome of the current case and the law firm's performance in the current case. These three contractual elements create

optimal incentives for the law firm in the current case because it wishes to receive the lump sum payment in future cases.

The presence of the lump sum payment, L , in our contract is a unique feature of our model. As stated above, L is some positive share of the expected surplus of the case. L must also be small enough that the client prefers our contract to the contingent and hourly fee contracts. The precise value of L in the optimal contract is determined through bargaining. If we presume that the contingent fee contract is preferable to the hourly fee, then one possibility is that the client and law firm simply split the expected surplus from our contract. That is, $L = \frac{\hat{A}(i, h^*) - \hat{A}(i, h_a)}{2}$. The considerations involved in bargaining over the value of L depend on its particular interpretation.

There are a number of possible interpretations of L . First, in every case the law firm will incur administrative costs such as photocopying, filing, telephone calls, etc. that are often borne by the law firm. L could be used to cover these administrative costs. Second, in any given case there is some likelihood that the client will dispute the expenses billed by the law firm. The law firm looking at a set of cases may transform this likelihood into an expected fixed cost. Then L could be an amount of expenses that the client agrees he will not dispute. If the client becomes dissatisfied with the law firm's performance, he could decrease the amount of L . One could think of this as requiring a more detailed reporting of billable hours for example. Finally, L might represent what is known as a "pure retainer." A pure retainer is a payment to the law firm that is not related to any

specific service but rather to ensure that the law firm will be available to the client and that it will not represent any parties adverse to the client.¹⁸

Another unique feature of our model is that we are implicitly presuming that the client reviews the performance of the firm on every case. One might believe that it is more likely that the firm's performances are reviewed over a longer period of time. Then if the law firm performed well at the beginning of the review period (obtained high payoffs from the cases) it might think that it can reduce its effort at the end of the review period because it believes that it has done enough to satisfy the client. This situation would be problematic for our mechanism. Fortunately, a recent survey of corporate general counsels found that corporate clients are willing to change law firms the moment they feel that the firm is not putting forth enough effort. The general counsel for a Kansas City based corporation stated, "As soon as I feel that one of our national firms is taking us for granted, I'll give one of our Kansas City firms a little more work [that otherwise would have gone to a larger firm], and then issue a press release letting everyone know what I've done."¹⁹ Thus, it appears that firm performance is continuously monitored.

As the quote above indicates, the client can punish the law firm for low effort by terminating the relationship or by lowering the intensity of the relationship. In our model, this would be accomplished by a decrease in δ . δ represents the discount used to calculate present value of the next case. As the intensity of the relationship is

¹⁸ See Calloway and Robertson (2002).

¹⁹ See Jones (2003).

decreased, the wait between cases will increase (ie. δ will decrease) and the discounted present value of the next case will decrease.

Another consideration is whether our results are robust to the status of the client. That is, does it matter if the client is the plaintiff or defendant in the legal case? With defendants we could think about them having some expectation as to the financial outcome of the case that could be negative. A contingent fee could then be a portion of the difference between what the client expected to have to pay and what it actually had to pay. For example if the client thought it would likely lose \$10 million and the case resulted in their losing only \$5 million, the firm would be compensated based on the money it saved the client. A problem arises, however, when the outcome of the case is worse than expected. In this situation it makes sense for the firm to pay the client for the worse than expected result. To our knowledge, notwithstanding issues of legal malpractice, attorneys do not regularly compensate their clients for unfavorable results in legal cases. In addition, we are not aware of the use of contingent fee contracts by defendants. However, the results of our model would continue to hold in this case. It does not matter if the expected reward from the case is positive or negative. In fact, in many legal cases, the defendant counter sues the plaintiff and therefore each party to the legal action is both a plaintiff and a defendant. Our results also apply to settlements and other negotiations and financial dealings that do not involve a trial but necessitate the use of lawyers. Our model is, therefore, robust to the client's position in the case and more general than contracts previously proposed.

Another advantage of our model is that it eliminates frivolous lawsuits. The law firm will not agree to represent the client in any case that has no merit because it knows that the outcome will be less than what the client expects. Representing the client in such a case would reduce the likelihood that the client would hire the law firm in future cases.

The contract that we propose takes advantage of repetition within the relationship to improve incentives through the termination function. This bears similarity to the literature on implicit contracts (Baker, Gibbons and Murphy (1994).) Of course, our work differs because the termination function is explicit.

6. Conclusion

We have shown that the optimal contract in a repeated relationship between a corporate client and a law firm consists of three elements: a wage rate equal to the law firm's opportunity cost, a lump sum payment, and a termination function. This contract corrects all the distortions created by pure hourly and contingent fee arrangements. Our results are in contrast to the generally accepted result that in a one shot setting, contingent fee contracts create the best incentives for attorneys to exert more effort on a given case to overcome the moral hazard problem. It is the repeated nature of the relationship we consider that allows us create a contract that will induce the optimal level of law firm effort on a given case.

References

- Baker, G., Gibbons, R., and Murphy, K.J. "Subjective Performance Measures in Optimal Performance Contracts." *The Quarterly Journal of Economics*, Vol. 109, No. 4. (1994), pp. 1125-1156.
- Calloway, J.A. and Robinson, M.A. *Winning Alternatives to the Billable Hour: Strategies that Work*, 2nd ed. Chicago: American Bar Association, 2002.
- Claremont, K.M. and Currivan, J.D. "Improving the Contingent Fee." *63 Cornell Law Review* (1978), pp. 529-599.
- Dana, J.D. and Spier, K.E. "Expertise and Contingent Fees: The Role of Asymmetric Information in Attorney Compensation." *Journal of Law, Economics and Organization*, Vol. 9 (1993), pp. 349-367.
- Danzon, P.M. "Contingent Fees for Personal Injury Litigation." *Bell Journal of Economics*, Vol. 14 (1983), pp. 213-224.
- Halpern, P.J. and Turnbull, S.M. "Legal Fees Contracts and Alternative Cost Rules: An Economic Analysis." *International Review of Law and Economics*, Vol. 3 (1983), 00. 3-26.
- Jones, A. "The Counsel You Keep." *Corporate Counsel*, November (2003), pp. 82-107.
- Kritzer, H.M., Felstiner, W.L.F., Sarat, A., and Trubek, D.M. "The Impact of Fee Arrangement on Lawyer Effort." *19 Law and Society Review* (1985), pp. 251-278.
- Posner, R.A. *Economic Analysis of Law*, 3rd ed. Boston: Little, Brown, 1986.
- Rhein, E.M. "Judicial Regulation of Contingent Fee Contracts." *48 Journal of Air Law and Commerce* (1982), pp. 151-178.
- Rubinfeld, D.L. and Scotchmer, S. "Contingent Fees for Attorneys: An Economic Analysis." *The RAND Journal of Economics*, Vol. 24, Issue 3 (1993), pp. 343-356.
- Santore, R. and Viard, A.D. "Legal Fee Restrictions, Moral Hazard, and Attorney Rents." *Journal of Law and Economics*, Vol. XLIV (2001), pp. 549-572.
- Schwartz, M.L. and Mitchell, D.J.B. "An Economic Analysis of the Contingency Fee and Personal Injury Litigation." *Stanford Law Review*, Vol. 22 (1970), pp. 1125-1162.